

# Claims

- [c1] 1. A clip suited in use for clamping together and maintaining alignment of mated bodies each carrying an indexing recess, the clip comprising:  
a clip body having an openable mouth, a closed bottom wall opposite from said openable mouth, and two opposite side walls extending between the mouth and said bottom wall and defining a central reception area between themselves, wherein said side walls each define a clamp portion centrally extending toward the reception area by a preselected dimension;  
at least two centrally directed latchkeys, arranged such that at least one of said latchkeys is carried on each of said side walls, and each latchkey extends toward the opposite side wall for a dimension exceeding said preselected dimension of the clamp portions, such that the latchkeys are sized to enter a suitably positioned indexing recess of the mated bodies while said clamp portions engage the mated bodies.
- [c2] 2. The clip according to Claim 1, wherein:  
said at least two latchkeys are positioned in opposed and aligned locations such that the latchkeys are suitably po-

sitioned to enter coaxially aligned indexing recesses of mated bodies.

- [c3] 3. The clip according to Claim 1, wherein:  
said clamp portion is located near the openable mouth of said clip body; and  
said at least two latchkeys are located intermediate said clamp portion and said bottom wall of the clip body.
- [c4] 4. The clip according to Claim 3, wherein:  
said bottom wall of said clip body is configured in an arc, concave toward said openable mouth and  
each of said side walls is connected to an opposite end of the arc of said bottom wall such that the connections to the side walls are spaced apart by the width of the arc and provide said central reception area for containing said at least two latchkeys.
- [c5] 5. The clip according to Claim 4, wherein:  
said at least two side walls are of a mutually converging configuration between said latchkeys and said openable mouth such that said clamp portions are more closely spaced than the width of the arc of said bottom wall; and  
said latchkeys are mutually spaced apart by a smaller distance than the spacing between said clamp portions and define a camming surface at least partially facing the openable mouth of the clip body;

whereby in use, as the clip is inserted over mated bodies that engage said camming surface, the camming surface opens the mouth of the clip as necessary to bring the latchkeys over the mated bodies to reach the position of an indexing recess.

[c6] 6. The clip according to Claim 1, wherein:  
each of said side walls carries a pin reception cavity oriented with a sufficient parallel component with respect to the side wall to enable the use of a pin spreader pliers to engage the cavities and open said openable mouth .

[c7] 7. The clip according to Claim 1, wherein:  
at least one of said side walls defines a first groove located between said openable mouth and said latchkey carried by said at least one of the side walls, thereby, in use, enabling the clip to engage said first groove on a suitably positioned cooperative alignment means on mated bodies to guide said latchkey to an indexing recess on the mated bodies.

[c8] 8. The clip according to Claim 7, wherein:  
said first groove is aligned between said openable mouth and said latchkey carried by said at least one of said side walls.

[c9] 9. The clip according to Claim 8, wherein:

said latchkey carried by said at least one of said side walls defines a second groove aligned with said first groove.

[c10] 10. The clip according to Claim 7, wherein:  
said first groove is in offset parallel alignment with said latchkey carried by said at least one of said side walls.

[c11] 11. The clip according to claim 1, in combination with mated bodies, wherein:  
said mated bodies comprise at least first and second conveyor belt pan units arranged end-to-end in longitudinal sequence, each carrying a joining flange at mated ends, thereby defining a face-to-face pair of joining flanges;  
each joining flange of said mated pair defines at least one indexing recess juxtaposed with an indexing recess of the other joining flange of the pair; and  
said clip body receives said pair of joining flanges in said central area while said latchkeys are positioned at least partially within said juxtaposed indexing recesses.

[c12] 12. A method of assembling a plurality of bodies, each having at least two respective indexing recesses, comprising:  
mating each one of the at least two indexing recesses of a first body in alignment with a corresponding one of the

respective at least two indexing recesses of a second body;

slideably clamping together the mated indexing recesses of respective bodies, thereby attaching the assemblage of bodies along a locus of the at least two indexing recesses; and

latching the clamping means at each of the respective at least two indexing recesses of respective bodies.

[c13] 13. The method of Claim 12, wherein the indexing recesses on respective mated bodies are located across from each other to fixedly establish relative positions of the bodies one to another, and wherein the indexing recesses are depressions in or boltways penetrating the bodies.

[c14] 14. The method of Claim 12, wherein said step of slideably clamping together the mated indexing recesses further comprises:

providing a clip having a latchkey at a predetermined location;

providing a pair of cooperative guiding structures functionally distributed between said clip and at least said first body, suitably arranged to guide the clip with respect to the first body to bring said latchkey to one of said indexing recesses of the first body while slideably clamping together the mated indexing recesses.

[c15] 15. A method of assembling a conveyor of the type comprising an assemblage of a plurality of modular belt elements as an endless belt, wherein each element attaches to a plurality of the elements along a locus mating each one of at least two attachment points of a first belt element to a corresponding one of the at least two attachment points of a second belt element, wherein each of the at least two attachment points has a contiguous indexing recess that is a penetrating boltway or depression, the method comprising:  
mating each of the at least two attachment points of a first belt element in contact with a corresponding one of the respective at least two attachment points of a second belt element;  
slideably clamping together the mated attachment points of respective elements, thereby attaching the assemblage of elements along the locus; and  
latching the clamping means at the indexing recesses of respective mated attachment points.

[c16] 16. The method of Claim 15, wherein said step of slideably clamping together the mated attachment points further comprises:  
providing a clip having a latchkey at a predetermined location;  
providing a pair of cooperative guiding structures func-

tionally distributed between said clip and at least said first belt element, suitably arranged to guide the clip with respect to the first belt element to bring said latchkey to one of said mated attachment points of the first belt element while slideably clamping together the mated attachment points.

[c17] 17. The method of Claim 15, wherein the indexing recesses on respective mated attachment points are located across from each other to fixedly establish relative positions of the belt elements one to another.

[c18] 18. An assemblage for attaching a plurality of bodies, comprising:  
means for mating respective bodies with each other;  
means for resiliently clamping together the bodies for attachment; and  
means for latching the clamping means to the respective bodies.

[c19] 19. An assemblage of a plurality of bodies, comprising:  
at least two attachment points on each respective body for mating to form attachable contact among a plurality of the bodies;  
a slideable resilient clamping means for attaching together the mated attachment points of respective bodies;  
and

indexing recesses contiguous with the at least two attachment points for latching the clamping means to the bodies.

[c20] 20. The assemblage of Claim 19, wherein the clamping means comprises a spring-type clamp, and is of a material composition that is polymeric or metallic.

[c21] 21. The clamp of Claim 20, wherein the clamp is of a profile in transverse section that is approximately rectangle shaped, round shaped, oval shaped, or polygonal shaped adjacent a clamp opening.

[c22] 22. The assemblage of Claim 19, wherein the indexing recesses of mated attachment points on attached respective bodies are located across from each other to fixedly establish relative positions of the bodies one to another, and wherein the recesses are depressions or boltways penetrating the bodies.

[c23] 23. In combination with a conveyor of the type comprising an assemblage of a plurality of modular belt elements as an endless belt, wherein each belt element is attached to a plurality of belt elements along a locus mating one of at least two attachment points of a first belt element to a corresponding one of at least two attachment points of a second belt element, wherein each



of the at least two attachment points of respective elements has a contiguous indexing recess that is a penetrating boltway or depression, the improvement comprising:

a slideable resilient clamping means fixedly attaching the belt elements together.

[c24] 24. The combination of Claim 23, wherein:  
at least said one attachment point of said first belt element carries a first alignment guide in proximity to said contiguous indexing recess; and  
said clamping means comprises a clamping surface, a latchkey, and a second alignment guide arranged with respect to said latchkey and clamping surface to be mateable with said first alignment guide for guiding movement of the latchkey to the contiguous indexing recess and guiding movement of the clamping surface to said one attachment point;  
whereby the latchkey is directed into registration with the contiguous indexing recess and locks the clamping surface against the attachment point.

[c25] 25. The combination of Claim 23, wherein each belt element is attached to a plurality of belt elements along a locus mating two of at least four attachment points of a first belt element to a corresponding two of at least four attachment points of a second belt element, wherein said

at least four attachment points are arranged with at least two in central positions and at least two in peripheral positions, the improvement comprising:

said slideably resilient clamping means fixedly attach the belt elements together at said peripheral attachment points; and

bolts attach the belt elements together at said central attachment points.

[c26] 26. The combination of Claim 23,

[c27] 27. The combination of Claim 23, wherein the clamping means comprises a spring-type clamp, and is of a material composition that is polymeric or metallic.

[c28] 28. The clamp of Claim 27, wherein the clamp is of a profile in transverse section that is approximately rectangle shaped, round shaped, oval shaped, or polygonal shaped adjacent a clamp opening.

[c29] 29. The combination of Claim 23, wherein the indexing recesses of mated attachment points are located across from each other to fixedly establish relative positions of the belt elements one to another.